

ABSTRACT

A method including forming a via dielectric layer on a semiconductor device substrate; forming a trench dielectric layer on the via dielectric layer; forming a trench through the trench dielectric layer to expose the via dielectric layer; forming a via in the via dielectric layer through the trench to expose the substrate; and forming a semiconductor material in the via and in the trench. An apparatus including a device substrate; a dielectric layer formed on a surface of the device substrate; and a device base formed on the dielectric layer including a crystalline structure derived from the device substrate.